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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/606,348	06/26/2003	Yoon Shik Hong	2336-183	3649

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EXAMINER	
KIM, ELLEN E	

ART UNIT	PAPER NUMBER
2874	

DATE MAILED: 06/08/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

H·A

Office Action Summary	Application No.	Applicant(s)	
	10/606,348	HONG ET AL.	
	Examiner	Art Unit	
	Ellen Kim	2874	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *04 April 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-10* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-10* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *2/7/05*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

This is responsive to Applicant's argument filed on 4/4/05, Applicant's argument regarding requirement of election of species are persuasive. Therefore all the restriction requirement made in previous Office action is hereby withdrawn.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1,2, 4, 5, and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Riza et al [USPAT 5,208,880] and in view of Aksyuk et al [USPAT 6,173,105].

Riza et al disclose an optical device comprising a substrate 302 having a planar surface;

A micro-electric actuator 326 arranged on the substrate;

A pair of optical waveguides 305,310 having a receiving end and a transmitting end, and coaxially arranged on the planar surface;

An optical shutter 354 movable between the receiving end and the transmitting end of the optical waveguides 305,310, and driven to move by the micro-electro actuator 320; and

A mirror layer formed on the optical shutter.

Riza et al disclose every aspect of claimed invention except for the surface layer formed on the optical shutter having reflectivity less than 80%.

Aksyuk et al disclose an optical attenuator and teach at column 1, line 63-column 2, line 18 that the shutter can have a surface layer which scatters light signal so that little of it either traverse the shutter to enter into the receiving fiber, or reflected back into the emitting fiber.

Therefore, It would have been obvious to the ordinary skilled person in the art at the time the invention was made to modify Riza et al's device to include the surface layer formed on the optical shutter having some reflectivity as shown in Aksyuk et al reference for the purpose of varying the amount of the optical signal which traverse the gap between the optical waveguides into the receiving fiber.

It is clear that this would improve the device.

In re claim 2, Riza et al and Aksyuk et al disclose every aspect of claimed invention except for the claimed material of the surface layer. It would have been obvious to the ordinary skilled person in the art at the time the invention was made to

modify to include the claimed material for the surface layer, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of is suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

In re claims 4-6, Riza et al show in fig. 1 and 3 the claimed different shape of the shutter. Note the size of the shutter is so small [micro size] that the shutter 150 is considered to be flat panel shape having an oblique surface.

Claims 2-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Riza et al [USPAT 5,208,880] , Asyuk et al [USPAT 6,173,105] as applied in claims 1 above, and further in view of Kitamura et al [USPAT 4,828,345].

Riza et al and Asyuk et al disclose every aspect of claimed invention except for the surface layer formed of a double layer comprising a first layer formed of a material selected from a group including Ti, Cr, W, Te and Be and a second layer formed of TiO_2, or CrO_2.

Kitamura et al disclose a selective light transmittable film comprising a mirror surface including what is claimed in claim 3 [column 2, lines 47-63.

Therefore, It would have been obvious to the ordinary skilled person in the art at the time the invention was made to modify the device to include a mirror surface as shown in Kitamura et al device for the purpose of reducing fog on the mirror surface.

Claims 1, 4-7, and 8 are further rejected under 35 U.S.C. 103(a) as being unpatentable over Novotny et al [USPAT 6,751,395].

Novotny et al disclose an optical device comprising a substrate 101 [fig. 8A] having a planar surface;

A micro-electric actuator 150 [fig. 1] arranged on the substrate;

A pair of optical waveguides 111, 112 having a receiving end and a transmitting end, and coaxially arranged on the planar surface;

An optical shutter 210 [fig. 2A] movable between the receiving end and the transmitting end of the optical waveguides, and driven to move by the micro-electro actuator; and

A surface layer formed on the optical shutter. Novotny et al teach at column 5, lines 18-33, and column 6, lines 14-18 that the surface of the optical shutter can be either coated with metal or/and dielectric. Novotny et al further teach that the optical shutter transmits some of the light signal, and reflects some of the light signal.

Novotny et al disclose every aspect of claimed invention except for the reflectivity less than 80%. It would have been obvious to the ordinary skilled person in the art at the time the invention was made to modify the device to include the reflectivity less than 80% as desired for the purpose of higher coupling efficiency of the optical attenuator.

In re claims 4-6, Novotny et al show in fig. 2A-2C the different shape of shutter.

In re claim 7, Novotny et al show in fig. 5A the spring 514 and electrodes.

In re claim 8, Novotny et al disclose every aspect of claimed invention except for the claimed material of the electrode and surface layer. It would have been obvious to

the ordinary skilled person in the art at the time the invention was made to modify to include the claimed material for the surface layer and the electrode, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of is suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

Claims 2-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Novotny et al as applied in claims 1 above, and further in view of Kitamura et al [USPAT 4,828,345].

Novotny et al disclose every aspect of claimed invention except for the surface layer formed of a double layer comprising a first layer formed of a material selected from a group including Ti, Cr, W, Te and Be and a second layer formed of TiO_2, or CrO_2.

Kitamura et al disclose a selective light transmittable film comprising a mirror surface including what is claimed in claim 3 [column 2, lines 47-63.

Therefore, It would have been obvious to the ordinary skilled person in the art at the time the invention was made to modify the device to include a mirror surface as shown in Kitamura et al device for the purpose of reducing fog on the mirror surface.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 9 and 10 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Riza et al.

The detail rejection is greatly discussed in rejection of claim 1 above.

Claims 9 and 10 are further rejected under 35 U.S.C. 102(e) as being clearly anticipated by Novotny et al.

The detail rejection is greatly discussed in rejection of claim 1 above.

Conclusion

In formation regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

For all official patent application related correspondence for organizations reporting to the Commissioner of Patents:

- Correspondence that is transmitted by facsimile must be directed to the central facsimile number, (703) 872-9306.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Further references of interest are cited on Form PLO-892, which is attachment to this office action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ellen Kim whose telephone number is (571) 272-2349. The examiner can normally be reached on Monday through Thursday.

Ellen E. Kim
Primary Examiner
June 3, 2005/EK